

Home Computing WEEKLY

2 week Christmas special!



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No. 43
Dec 20, 1983
Jan 2, 1984

38p

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Oric, Dragon,
Texas, VIC-20,
Commodore 64

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Software
reviews for:
Dragon, Texas,
Spectrum,
Commodore 64

**new Spectrum
Adventure**
Spectrum Safari



CDS-Magic Systems
80 Moorfield Close, Southall
Middlesex UB8 3JA



CBS plans its Adam strategy

CBS is taking a more active role in the home and at business, to decide on exactly how its new Comcontron Adam computer should be marketed in the UK.

Philip Gibbs, marketing manager, explained: "We believe Adam will be of interest to two markets — the serious home user and the small business employing about 10 people."

There's a lot of evidence that home users are starting to upgrade to bigger, more powerful machines. And whilst at the moment small business thinking about buying a computer are faced with paying upwards of £1,000 for the micro alone, with the Adam, they'll get a complete system for around £700 — an

(Continued on page 3)

More moves cause upsets in Liverpool

In the latest round of musical chairs in Liverpool, club owner Tommy Bartlett has appointed the production manager of addition makers Palfry Micro Systems.

Until now the recent company and group had been mainly concerned in big software houses like Blue Byte and Imagine and their smaller rivals.

Software Projects, Mr Bartlett's first venture into home computers, has now been joined

(Continued on page 3)

**new Spectrum
Arcade action**



CDS-Magic Systems
80 Moorfield Close, Southall
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24 PAGES OF SPECTRUM BEST

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Minister the brain of BASIC and ready to meet our New Year's Program in BASIC is a book of programming techniques, algorithms, program modules, programs and ideas for those who want to make more better use of their machine. Written by Peter Bishop, author of four other computer books, it costs £9.95, and should be in the shops just after Christmas.

Thomas Nelson, Nelson House,
 187/189 Road, Wilton on
 Thomas, Surrey KT12 1JL

Marshall's brought out a new game, Quest of Meriville, an adventure game for the Commodore 64 or VIC (C100) and Microvare for the Spectrum (C128), a game of logic in which you have to guess the hidden code. Marshall say they "accept no responsibility for damage caused by guess, approximation to longer list" as a result of playing Meriville, and plan to make it even more annoying soon by adding synchronized comments using the Danish Measpeak synthesizer.

Atkinson, 9 Dillingbury Road,
 Earls Court, Surrey W5 2EP

David game input — out info for the VIC 20 and the other for the Commodore 64 — have been brought by Audiotape. They are Cerebus, a space shoot 'em-up game in £5.95, and a memory and tactics game called Bots (C100). Also are from Audiotape: Skiff, a maze game for the VIC or C100 and four for the Commodore 64. Bop, Bop, Bop, Bop and Bop are £5.95 on cassette and Bop's Midnight Magic is £5.95 on disc.

Audiotape, P.O. Box 22,
 Reading, Berks RG1 2JY

The first four sides in the Clear and Simple Home Computer Series of paperbacks are out this month. They are (introduction to) Computers, by Peter Lefferts; How to use a Macintosh, by James, Graphics, and Sound, and Learning with your Home Computer, all by Susan Corbin and Ray Corbin. The four books cost £4.95 each.

WBS Distribution, St John House, East Street, Leicester LE1 6AB

Home Computing WEEKLY

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A Happy Christmas to you



It's our first Christmas at Home Computing Weekly and we have put together a special seasonal treat.

We hope you have found the games useful.

And we would like to wish all of you a very happy Christmas as well as an enjoyable and successful New Year.

We are taking our Christmas break too. Home Computing Weekly will be back in the shops on Tuesday January 15.

As well as software reviews — more than any other magazine — the latest news, programming hints and listings to type in, there will be some great extras throughout 1986.

Our thanks go to all those who have helped to make HCW such a success in just 42 weeks.

Paul A. Clancy

P.S. Please remember that we are now at our new office: No 1 Golden Square, London W1R 3AL. Our new phone number is 01-437 0626.

Adam Strategy

From front page

during VAT.

"What we're trying to do is find out exactly what people are currently using their micro-computers for, and how they would like to use them. And then we hope to be able to persuade designers of the Adam that we'd do those things."

"It is being promoted as the basis to the first family computer. But 'family' in this country suggests 'expensive'! We don't want to buy into off the business case, so we're thinking of calling it 'The complete computer system'."

For the pricing of £700 (net), Adam purchasers will get a key-board and, displayed printer, two games controllers/keypads and a mass storage/performance unit.

The computer has a Z80A processor and 80K of RAM, upgradeable to 140K. There's the CP/M operating system and a word processor built into ROM, but BASIC has to be loaded in from cassette.

Mass storage features will consist of an upgrade disk, which will take Coloco game cartridges, and a high speed digital tape recorder which will take two special Coloco tape cassettes. The system cannot be split up.

As an alternative to buying the system from scratch, the £6,000 or so UK converted Coloco games

tapes, which will also have spare storage capacity, a blank tape, and a game, called Back Roads — The Planet of Doom.

There are currently 17 games cartridges already available for the Coloco game machine, and Coloco is working on a system of tape-based software, including a Simultex system which allows you setting of challenges, to hold up machine time.

There will also be a number of "expansions" like the disk. R-type tape which will have lots of different screens which lead in an sequence from the tape and Coloco is preparing to unveil "a whole range" of these things at the Las Vegas computer show in January.

Also presented for the Las Vegas show is a disc drive interface. Because Adam has the CP/M operating system, by buying the disc interface and a disc drive, users would be able to run much of the disc-based software already written for CP/M-based machines.

For the UK launch, CBS will select software from Coloco's range, adapting programs for the UK market where necessary. But it is also talking to two independent UK software companies about developing a series of programs especially for the UK, taking into account the needs of its customers with UK laws.

CBS hopes that the Adam will be on sale in a range of stores at the High Street address, but so far it has only spoken to two companies. According to Philip Gable, "nobody's yet made any

Liverpool

From front page

by Haydnwa Francis

(It first producer) — alive at the prototype stage — is to be a joy-stick joystick computer for the Spectrum. It will have a colour screen and will be compatible with European protocols.

Managing director is Keith Archer, from Fulcrum, who said "I'm unsure for a range of problems and I don't intend to stick up with the Spectrum".

Among his ideas, a program mainly controls interface plus ROM controllers for the clone machines 48, VIC-II and Spectrum. All would be designed by a team for which he was advertising.

Mr Archer's former boss, Fulcrum managing director Roy Backhouse, said "I would not like to show cold water, but it may not be a realistic objective. Ideas there will be some flying about. We don't want to see our head going down the drain."

"Obviously, it's a good thing for Timmy Barnes — Keith knows how Fulcrum works and the contacts. We have to reassure the company and we can live with it. It was no great loss."

Liverpool's home computer history starts in 1977 when Bruce Evans, now an Imaginovation, started a store called Microdigital Mark Butler, his sales manager, left to join Bug-Bite in about the same time as he found and left Fulcrum programmer Dave Leman. They later left to form Imagin.

Meanwhile Mr Evans ran into cash flow problems and sold Microdigital in Larkley to a deal which obliged him to stay with the new owners for a time, during which more stores were opened. One source believes some of the money from the Microdigital sale went into Imagin.

Back at Bug-Bite, in October this year, Alan Mason and his secretary wife Sue decided they wanted to go to a place called Acorn Software, with Mr Davies as chairman and adviser. Their life Barnes, will know

was the Liverpool club and pub scene. His last-known club in Wood Hall is nearby Anfield.

He is the money man behind Software Progress. Its best-known games are Magic Mirror, and now a sequel featuring the same character, Jet Set Willy.

Both were written by Matthew Smith, 37, who had founded the charity-based Micro Mirror to Ben-El-Mechaie. Now he is transferred to St John's Progress — Bug-Bite will have a job to fill — of which he will be a director on his eighteenth birthday in February. He will own slightly less than a third of the company with Mr Barnes and Mr Mason holding the remainder.

In a few days a Commodore 64 version of Magic Mirror should be ready. It is being converted from the Spectrum by RAF corporal Chris Lawrence, author of Imagin's Spectrum game, Bewitched. There will also soon be a new version of Jet Set Willy. Mr Mason says his company cannot be friendly and helpful to both trade and consumers. But some senior software people in Liverpool are unhappy about the latest changes.

Mr Mason's Acorn Software is now part-owned by Roy Butler, father of Imagin's Mark Butler, who also has another software store, Vexware.

Bug-Bite has just launched The Birds and The Bees — with graphics by Matthew Smith — which introduces a new cartoon character called Bore the Bear.

Latest products from Imagin are Adam and Dragon variants of Leggo! — the name changed from Jumper Jack by agreement with a company made up of the name — and two more speed run tapes: Asteroids, a graphic adventure, and a war game called Star Wars.

And, according to Mr Davies, Imagin is looking to games by cable in which the adventure could be played by several people and huge games sold on laser disc.

■ Other companies who play a part in Liverpool's home computer scene are An Microcomputers, D&MS, Stink, Liverpool and Home Computer Centre.



Coloco's new Adam — a complete system for an all-in-one price

machine can buy an expansion unit to turn their games player into a computer — but the price, that, says will not reach back £800-£1000.

CBS does not as yet know how much the speed tape cassettes will cost, but the disadvantages of using non-standard tapes will become more to offset by faster and more reliable loading and saving. Such tape will also be able to hold a great deal of data — the equivalent of up to 250 pages of double spaced typed text.

The Adam will include software — the Smart BASIC,

commitment, and we haven't asked them to."

Barnes adds the experience with the complete Adam can be developed to allow them to work with UK TV sets, and the Adam will have to have a new PCB.

But CBS is pretty confident that Adam will be in the shops in April — and the expansion will probably arrive even sooner than that.

CBS, Woodley Road East, Woodley, Berks



Customers queued outside Microgate, in Fulham, waiting for opening of the new Spectrum computer. The store had 95 and sold all of them on the day.



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- Second Important Party
- New volunteer committee for all other

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Modern Court 40%	Band 40%
Speech 40%	20 Control 40%
Language 40%	20 Control 40%

Figure 11 HOME COMPUTING, WINDOW 38 (continued)

TEXAS CRACKERS

A Selection Box

1 BLAST IT

Home Computing Weekly Rated*****

Working against a time limit you must disarm several bombs, using a wire guided robot. Disarm in wrong order and bombs explode. Five levels of difficulty. Sound and graphics. A winner.

2 CORE

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3 SPUDZ

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5 FRUIT MACHINE

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Well, here's a fun and tricky quiz to test your knowledge. There are no prizes. Without checking answers, answer a, b, c or d to the following questions.

If you have read every word of HQ, you should be able to easily complete the quiz.

Your ratings

12-15 you are a genius or a genius
16-22 you should be on Sinclair's staff

23-28 quite clever

29-34 not bad at all

35-41 haven't been paying attention, have we?

42-49 you sure you are a Sinclair computer?

50-56 if you're not better off with an abacus!

Norfolk could have more area, could they? Could they?

The man himself — Sir Clive Sinclair

1 Where was he born?

- a 1942
- b 1954
- c 1940
- d 1943

2 Where was he mainly educated?

- a Cambridge
- b London
- c Weybridge
- d Dorset

3 For how many years was he a syndicated journalist?

- a five
- b six
- c two
- d 10

4 What are the conventional rents for Sir Clive's luxury new home in London?

- a £100,000
- b £200,000
- c £300,000
- d £400,000

The company

5 What was Sinclair Research founded?

- a 1978
- b 1979
- c 1980
- d 1970

How well do you know Sir Clive Sinclair and the home computer boom he helped to create? Our quiz will test your knowledge

6 What was the name of Sir Clive's first company?

- a Sinclair Research
- b Sinclertopics
- c Sinclair Publications
- d Sinclair Electronics

7 What was the first product from Sinclair Research?

- a The pocket calculator
- b The Mark Words
- c The ZX80
- d cheap hi-fi equipment

The computers

8 The ZX Spectrum is based around an advanced

- a 4-chip design
- b four-chip design
- c seven-chip design
- d Space Invaders Master Control Chip

9 What was the original price of the ZX80?

- a £100
- b £99.95
- c £99.99
- d £120.99

10 The ZX Spectrum can transmit information

- a five times faster than the ZX80
- b at the same speed as the ZX81
- c 10 times faster than the ZX81
- d six times faster than the ZX81

11 How many months before the Spectrum was the ZX81 launched?

- a 30
- b 21
- c 11
- d 14

12 On average, how much does the ZX81 starter pack now cost?

- a £65
- b £10
- c £45
- d £20

The rest

13 The author of the classic ZX81 program Manx was

- a Maria Miller
- b Spectral Invaders
- c Madsen
- d Jenson

14 Ocean Software is an alliance between two software houses. Which ones?

- a Multimedia House and Proton
- b QuickSilver and Bug Den
- c QuickSilver and Ultimate
- d Paine and Micro-Care

15 What game or games is Ocean Software renowned for?

- a just Professional
- b just the Hammer series
- c The Hobbit, Professional and the Hammer series
- d the Hammer series and Professional

16 Who wrote, among others, 3D Adventure Master and Conquests of Camelot?

- a Malcolm Evans
- b J. R. Cope
- c J. R. Evans
- d Malcolm E. Cope

17 Who wrote the best-seller 'Mung Mung'?

- a Mark Smith
- b Mark Page
- c Matthew Smith
- d Matthew Page

18 Which company markets a game called Distancer for the ZX81?

- a dL/Tronics
- b Sun-Rite
- c Richard Shepherd
- d Quicksilver

19 Quicksilver designer Mark Miles is writing a book about

- a creating a software company
- b the ZX Spectrum's CPU
- c the chess-playing computer
- d the Falklands campaign

20 Ocean markets several arcade-like games. Which of the following originals is not in its image?

- a Dragonfire
- b O'Zari
- c Donkey Kong
- d Space Patrol

21 Ultimately Play the Game is in the Games in

- a Aubrey
- b Zevon
- c Zevon
- d Aubrey de la Zevon

22 Who is the author of 'Imaginer's Armada and All That?'?

- a Eugene Evans
- b John Gibson
- c Mark Hunter
- d Dave Landon

23 Williams's Defender is a

- a version of
- b Defender
- c Defender
- d Asteroids

24 Timegate is produced by

- a Megal
- b Megal
- c QuickSilver
- d C. R. L.

Quiz answers

- | | | | | | |
|------|----|----|----|----|----|
| 1-12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | 31 | 32 | 33 | 34 | 35 |
| 36 | 37 | 38 | 39 | 40 | 41 |



THE HOTWARE PEOPLE

[illegible][illegible]

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

[illegible]

11

Sort out Santa's present muddle

You get 30 seconds to maximize the line (you'll need to remember how to help Santa later), then off you go on his sleigh.

- A** number of names and persons
- AL** *al* indicator in title
- B** a number number
- BL** array holding 10 selected names
- BL** array holding all available names
- FL** condition array
- FL** array holding 10 selected persons
- FL** array holding all available persons
- FL** array
- F** counter
- F** flags, character code
- G** input variable
- G** global modulus of *array*

On the north-south road,

A snowstorm has blown away all the labels on Father Christmas's parcels. David Nowotnik explains how you can help



The slopes, of course, are not always a constant value of 20. The game is a test of memory with the move being made on a disc surface.

- 100-1100** motor mass combi-
 tor parking garage
1200-1300 197-187 32 vehicle
 spaces and 20 spaces on street
 10-20 vehicle stalls
1000-1200 1000 vehicle stalls
 ability for more space garage
1100-1200 1000 stalls for 1000 cars
 garage
1140-1180 motor-a single from
 garage
1100-1200 several spaces
1100-1200 1000 stalls of 1000 cars
 1000 and 1000 stalls
1200-1300 1000 stalls from 1000
 stalls garage
1200-1300 1000 stalls of 1000
 stalls garage
1000-1400 1000 stalls parking garage —
 combi-
1200-1400 1000 stalls garage, garage
 for 1000 stalls 1000 stalls
1000-1500 1000 stalls garage 1000
 stalls, and 1000 stalls — 1000 stalls
 stalls

To do this, add more DATA lines, each containing a name and percent, and replace the number in the DATA line 5000 with the new total of names and percent.

```

1000  # @param x a vector of length 1000
1001  # @return a vector of length 1000
1002  # @description This function returns a vector of length 1000, where each element is the sum of the elements of x, divided by the number of elements of x.
1003  # @author John Doe
1004  # @version 1.0
1005  # @date 2023-10-10
1006  # @license MIT
1007  # @keywords vector, sum, mean
1008  # @examples
1009  # x = c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10)
1010  # my_mean(x)
1011  # [1] 5.5
1012  # @export
1013  my_mean = function(x) {
1014    return (sum(x) / length(x))
1015  }

```

ORIE CHRISTMAS PROGRAM

[illegible]

```

00000 000000,PL0,PL1
00001 00000 00000
00002 00000 00000 00000 Enter the number of the key
00003 00000
00004 00000 00000 00000
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00009 00000 00000 00000
00010 00000 00000 00000
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MST...MST...MST...MST...MST...MST...MST

DRAGON DISKETTE AND CASSETTE BUSINESS SOFTWARE FOR DRAGON 32/64
DISKETTE PROGRAMS FROM \$14.95 inc. VAT : CASSETTE PROGRAMS £19.95 inc. VAT

[illegible]

—SALT LAKECITY & SURROUNDINGS—Rampage on highway. Two cars go off the edge of a cliff, killing 10. The crash killed 10 people in Utah's worst highway accident. A semi-truck flipped over a guardrail, sending a car flying into the air. The car landed on its side, killing all 10 people. The accident occurred on Interstate 15, near the town of Alton. The cause of the accident is still under investigation. **—SALT LAKECITY & SURROUNDINGS**—A car accident on Interstate 15, near the town of Alton, killed 10 people. The accident occurred on a rainy night. The car was traveling at high speed when it lost control. The driver was not wearing a seat belt. The accident is being investigated by the Utah Highway Patrol. **—SALT LAKECITY & SURROUNDINGS**—A car accident on Interstate 15, near the town of Alton, killed 10 people. The accident occurred on a rainy night. The car was traveling at high speed when it lost control. The driver was not wearing a seat belt. The accident is being investigated by the Utah Highway Patrol.

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[illegible][illegible]

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[illegible]

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[illegible]

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1000 1000 1000

[illegible][illegible]



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Computer Graphics
Welcome

BBC CHRISTMAS PROGRAM

You wouldn't want anyone to go without presents, would you? Type in this game to give Father Christmas a hand. Martin Hollis, aged 12, wrote it for the 32K BBC Computer

How it works
10-20 initialisation, background.
40 set up screen, give Santa a present.
100 calculate score for delivering presents.
120 finish if got all items or all presents delivered.
200 main. Santa and give him a present, draw more items.
240-260 calculations for PBO's.
260 DATA for graphics.
280-300 count up items.
300-350 draw items on screen.
350-400 on up graphics.
410-430 movement routines.
440-470 check if Santa has for item and add to score.
480-510 sound.
700-750 end, game finished.

door and two or three random presents through the door to deliver his presents.

The first present requires magic to deliver. All he has to do is stand bumping into the door and when he comes into door of the house his present is safely delivered and he is whisked back to his base by magic.

However, the same rule he makes the journey the faster is that is and when he has delivered the present he has to return to his base. He has to return on foot or collect the next present and then wander back to the house to deliver it (but if he can do it all in the same second).

After delivering the second present he finds his magic has been removed and he is again back to base, ready for a new go.

Unfortunately, he now has three presents to deliver and now his magic will only bring him safely back to base after

delivering all three presents having walked through the forest a total of five times. And so it goes on with more presents and thicker forests each time until eventually he loses all three lives.

How many presents can you help him deliver before he runs out of time or loses a turn by crashing into a tree?

He has a total of three lives in each game which means either by crashing into a tree which then becomes an impassable shrub or by running out of his house (twice).

At the start of the game the rate and instructions are displayed with an appropriate jingle. The opening keys — S and X for up and down, and the two that add greater than keys for left and right — are displayed and you are given the option of sound or silent running.

At the end of each journey the score is displayed, while a new landscape (with) items running for the next journey. When all three lives are lost due to score is displayed.

The game will run on a 32K BBC micro only. Most of the memory is used as the game is in Mode 1 so when typing the pro-

gram saving all unnecessary spaces and do not add any extra ones.

Good luck. I hope you've not too tired to have a Happy Christmas!

Main variables

- A% present loop counter
- B% house or time left
- C%, D% counters for random count
- E% rate if Santa has presents to deliver
- F% list of presents to be delivered
- G% to score
- H% lives left
- I% rate of present then or less than key pressed
- J% presents delivered
- K% top counter for opening jingle
- L% volume setting (0-9) — 10
- M%, N% item X, Y-coordinates
- O% score
- PBO's rate of game is in real
- Q% (0-24) by 12% object in that position
- R%, S%, T%, U%, V%, W%, X%, Y% Santa X, Y co-ordinates on X, Y axes
- Z% if on H line sound on/off or another phase
- 00, 01, 02, 03 bottom floor, middle floor, roof, top floor of house

Main PBO's
PBO0-PBO1 display coordinates
PBO2-PBO3 display score
PBO4-PBO5 display of PBO's coordinates
PBO6-PBO7 display score
PBO8-PBO9 display of Santa's three lives given or not
PBO10-PBO11 display of Santa's three lives given or not
PBO12-PBO13 display of Santa's three lives given or not
PBO14-PBO15 display of Santa's three lives given or not
PBO16-PBO17 display of Santa's three lives given or not
PBO18-PBO19 display of Santa's three lives given or not
PBO20-PBO21 display of Santa's three lives given or not
PBO22-PBO23 display of Santa's three lives given or not
PBO24-PBO25 display of Santa's three lives given or not
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PBO98-PBO99 display of Santa's three lives given or not

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 30: 60-70
 40: 80-90
 50: 100-110
 60: 120-130
 70: 140-150
 80: 160-170
 90: 180-190
 100: 200-210
 110: 220-230
 120: 240-250
 130: 260-270
 140: 280-290
 150: 300-310
 160: 320-330
 170: 340-350
 180: 360-370
 190: 380-390
 200: 400-410
 210: 420-430
 220: 440-450
 230: 460-470
 240: 480-490
 250: 500-510
 260: 520-530
 270: 540-550
 280: 560-570
 290: 580-590
 300: 600-610
 310: 620-630
 320: 640-650
 330: 660-670
 340: 680-690
 350: 700-710
 360: 720-730
 370: 740-750
 380: 760-770
 390: 780-790
 400: 800-810
 410: 820-830
 420: 840-850
 430: 860-870
 440: 880-890
 450: 900-910
 460: 920-930
 470: 940-950
 480: 960-970
 490: 980-990

Help Santa to deliver those



BBC CHRISTMAS PROGRAM

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電話：09-26222222 傳真：09-26222222 地址：臺南市安平區永福路二段100號

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1996 年 12 月 1 日
 1997 年 1 月 1 日
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THE UNIVERSITY OF CHICAGO
1100 S. EAST
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• 1991: 100% of the population was covered by the health insurance system.

100



HOME COMPUTING WEEKLY 20 December 1989 Page 28

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AGF

PROGRAMMABLE JOYSTICK INTERFACE for Spectrum or ZX81

**NOW
AVAILABLE
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PROGRAMMABLE INTERFACE

The AGF Programmable Joystick Interface is a unique device offering the use of any AGF compatible joystick with thousands of software routines at a mere £32.95 incl. VAT, with the Sordex Spectrum or ZX81.

The hardware programmable interface requires no additional software and accurately reproduces the logic of the computer as a mouse, while it is responsive to absolutely ALL key coding methods, both BASIC and Machine Code.

The interface does not interfere with key operation and can therefore be used simultaneously with the keyboard.

There is no need to rewire the unit and it may fitted to the rear extension connector with accompanying harness (a question or 4-in-1 probe etc). The computer device must therefore refer to the expansion port.

The key extension principle pioneered by AGF means that joystick programs can use eight dimensional joystick movement to achieve simple key coding BASIC.

Two joystick outputs are provided which allow the user to play the computer the majority of two player games. Several other links may be used on the extra connector for multiple joystick applications.

The interface is programmed by a two digit code, which is looked up on a programme chart supplied, for eight direction and firing buttons. The two outputs are then pulsed on a pair of leads which are aligned microscopically located slots on the interface.

Once installed this can be marked on a Quick Reference Programming Card for wiring with the 2004, 2104 Programmable or use proven depression key definitions. The full configuration code will also be automatically read when next installed on.



KEY FEATURES

- Programmable design gives TOTAL software support.
- Accepts Aim, Competition Pro, Wren, Warlight, Quake Box, Le Saboteur.
- Best extension connector for all other add-ons.
- 2 x 8 direction program and keypads etc.

PACKAGE CONTENTS SUPPLIED

- Programmable Interface Module (software), complete with dip-switch program switch.
- Full colour programming chart detailing how to define which key is connected by the CODE LEFT, RIGHT, and FIRE.
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Millers The Commodore 65

OLD and BUSTLE

Here are two short machine code programs for Commodore 64 owners. The first routine is called G412, and will run on a program which has been defined in error using NLW. The routine will only work if you own RA-58C, and has been entered under RA-58C with development.

The second routing reference for Canadian 64's **RESTORE** facility by adding the string to insert to a particular data line:

I have found this system extremely useful as programs which I have created this week, yesterday and today.

Previously, the only method of recording a particular group of data items was to encode **MSB/DAT**, then set up a group of data items to record, then process the items.

These new results could also be used to rankbombs and dig out a few more innocent people.

Here are two examples. The first shows program code and the code loader. The second is the `AArch64` subsystem to be installed. It also needs to access the source machine.

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

[illegible]

Figure 1 consists of two bar charts, (a) and (b), showing the percentage of respondents for different levels of agreement with the statement "The government should do more to protect the environment".

Chart (a) shows the percentage of respondents for different levels of agreement (Strongly agree, Agree, Disagree, Strongly disagree) across four groups: All respondents, Men, Women, and 18-24 year olds. The y-axis represents the percentage from 0 to 100. The x-axis represents the level of agreement. The legend indicates that the bars represent the percentage of respondents.

| Level of Agreement | All respondents | Men | Women | 18-24 year olds |
|--------------------|-----------------|------|-------|-----------------|
| Strongly agree | ~65% | ~60% | ~70% | ~75% |
| Agree | ~30% | ~35% | ~25% | ~20% |
| Disagree | ~5% | ~5% | ~5% | ~5% |
| Strongly disagree | ~0% | ~0% | ~0% | ~0% |

Chart (b) shows the percentage of respondents for different levels of agreement (Strongly agree, Agree, Disagree, Strongly disagree) across four groups: All respondents, Men, Women, and 18-24 year olds. The y-axis represents the percentage from 0 to 100. The x-axis represents the level of agreement. The legend indicates that the bars represent the percentage of respondents.

| Level of Agreement | All respondents | Men | Women | 18-24 year olds |
|--------------------|-----------------|------|-------|-----------------|
| Strongly agree | ~65% | ~60% | ~70% | ~75% |
| Agree | ~30% | ~35% | ~25% | ~20% |
| Disagree | ~5% | ~5% | ~5% | ~5% |
| Strongly disagree | ~0% | ~0% | ~0% | ~0% |

```

1000 X = INT(ABS(RND)) : Y = 1.194E - 25E X
1010 FOR Q=0 TO 3 : FOR R=0 TO 3
1020 X=X/5 : Y=Y/154
1030 FOR P=65.761349152 : FOR Q=64.761349152
1040 RETURN
To RESTORE : is a portable data statement, simply type
RND = CCN(0.0000, 0)
10
11

```

[illegible]

100

I leave it to readers to find suitable uses for this resource.
Ann C. Carlson

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■ professional reaction: legal and corporate counsels, as well as agents on the ground, throughout immediately had been with Henry's counsel team.

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must be polite at boss's Christmas party



| Age Group | Percentage |
|-----------|------------|
| 18-24 | 10 |
| 25-34 | 20 |
| 35-44 | 30 |
| 45-54 | 40 |
| 55-64 | 50 |
| 65-74 | 60 |
| 75-84 | 70 |
| 85+ | 90 |

[illegible]

with surgery that you lose all control of your hand and are lying prone all over the place. There is a way out of this problem, we don't discuss.

From F (for "I've had too much to drink") and, what a short pause which allows you to reflect on the state of your wine, you're given 30 seconds power for honesty, and a chance to play a few cards.

1000

- C**ause keeps (B-3, B-7) to move the hand left to start a new wave up the screen
- C**an ask for coffee (which is deliberately awkwardly phrased)
- H**is go to a new screen by scrolling from the person on
- F**or, when you can't see the

A few lines on instant. Each new giant gives you a character with a flame power of summing the theory. When the theory begins to take effect the level will slow down, and then start moving with a will of its own. Its early moves are slow, and to be

Il Parlamento europeo ha approvato la direttiva che stabilisce i requisiti per i prodotti di plastica biodegradabile e compostabile.

patients try to get to a new screen before drinking coffee, because that will affect your condensation on the new screen. Two or more coffees will have a bigger lasting effect than one, then the most screens you survive the most valuable the pass are, so don't waste them on the early screens.

Try not to end up with a mass of useless or "faint" or even left over. Sooner or later it's usually sensible to press F and take the risk.

As a result, the author's high scores on the 100-point reading test were

In early stages of the game it's worth going for the underdog where about half the screen is cleared, and then use your "Warrior" with cleareans. You can run your head underneath the cracks without penalty at any time before you've cleared the necessary number of men.

You can start with a pot or a sherry — but you must remember the last thing you had when you go to a new career, or else you'll lose a life.

Peate' lauds the generation of random numbers as an "exercise which produces real random numbers... it will be possible for players to compare performance directly by always BREAKING and KILLING after the first game. This will produce a 'balance' character in control, although the field of operators will be different. But this is a new business.

Graphics: 752 & 153 belly, 144 berries, 156 & 157 pie and pie crumbs, 126 & 127 salad and croutons, 128 & 131 tort and crouton, 112-113 bread, 105-106 parts of machine

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

The 1976 construction of memory, at least for that 148 of one available memory, will not make, whatsoever possible under the program is, actually with small memory time (which the Texas Tech, not support).

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and background!

These programs were up a black backgrounded, red glossy, yellow gear, a magenta ball, green telly and a orange condition.

TI-99/4A CHRISTMAS PROGRAM

```

1 DIM MEM(24:32)
2 GOSUB 151
3 GOTO 37
4 F=115
5 C=C+1
6 RETURN
7 F=114
8 C=C+1
9 RETURN
10 F=113
11 R=R+1
12 RETURN
13 F=112
14 R=R+1
15 RETURN
16 F=111
17 R=R+1
18 C=C+1
19 RETURN
20 F=110
21 R=R+1
22 C=C+1
23 RETURN
24 F=109
25 R=R+1
26 C=C+1
27 RETURN
28 F=108
29 R=R+1
30 C=C+1
31 RETURN
32 CALL HCHAR(1,PL,32,LEN(MS)+2)
33 FOR J=1 TO LEN(MS)
34 CALL HCHAR(1,PL+J,ASC(SUB$MS
+J,1))
35 NEXT J
36 RETURN
37 CALL KEY(3,K,S)
38 CALL SOUND(175,P,0)
39 Y=R
40 M=C
41 IF S=0 THEN 52
42 IF K>99 THEN 45
43 K=1
44 GOTO 74
45 IF K>99 THEN 48
46 K=2
47 GOTO 74
48 IF K>99 THEN 51
49 K=3
50 GOTO 74
51 IF K>99 THEN 54
52 K=4
53 GOTO 74
54 IF (K=72)&(PL<3) THEN 55 ELSE
55

```

```

55 PL=PL+1
56 CALL HCHAR(24,12,ASC(STRLEN-
PL))
57 GOTO 368
58 IF K=80 THEN 299
59 IF (F=67)&(CDF=0) THEN 60 ELSE
60
61 CALL HCHAR(1,CHAR-2,121)
62 CDF=CDF+1
63 FOR J=20 TO 110 STEP -10
64 CALL SOUND(50,J,0)
65 NEXT J
66 CHAR=CHAR-2
67 IF INT(RND+1)+1=3 THEN 68
68 SH=SH-52
69 SC=SC-33
70 IF SC=1 THEN 71
71 NG=STR$(SC)
72 GOSUB 32
73 GOTO 37
74 IF SH=91 THEN 77
75 ON K GOSUB 4,7,10,13
76 GOTO 87
77 IF SH=92 THEN 80
78 ON K+INT(RND+1) GOSUB 4,7,10,1
3,16
79 GOTO 87
80 IF SH=93 THEN 93
81 ON K+INT(RND+2) GOSUB 4,7,10,1
3,16,20
82 GOTO 87
83 IF SH=94 THEN 86
84 ON K+INT(RND+3) GOSUB 4,7,10,1
3,16,20,24
85 GOTO 87
86 ON K+INT(RND+4) GOSUB 4,7,10,1
3,16,20,24,28
87 IF MEM(R,C)<>1 THEN 97
88 R=Y
89 C=M
90 CALL SOUND(100,2200,0)
91 SC=SC-90
92 IF SC=1 THEN 94
93 SC=0
94 NG=STR$(SC)
95 GOSUB 32
96 GOTO 37
97 IF (LEN(R,C)=2)&(Z(N)) THEN 98
ELSE 101
98 R=Y
99 C=M
100 GOTO 37
101 IF MEM(R,C)<>0 THEN 107
102 CALL HCHAR(C,M,TK)
103 CALL HCHAR(R,C,F)

```

TI-99/4A CHRISTMAS PROGRAM

```

104 TH=145
105 MEM=P-C:=1
106 GOTO 37
107 Z=Z+1
108 IF (MEM/P-C)*(Z+1)/Z <=N THEN 2
57
109 D=0
110 E=MEM/P-C
111 CALL HCHARP(V,M,T)
112 CALL SOUND(-250,-1+3+MEM/P-C)
J=0
113 CALL HCHARP(P-C,P)
114 IF E < 3 THEN 117
115 TH=137
116 GOTO 122
117 IF E < 4 THEN 121
118 TH=129
119 SH=SH+1
120 GOTO 122
121 TH=143
122 IF MEM/P-C < 3 THEN 126
123 SC=SC+86
124 MS=STR$(20)
125 GOSUB 12
126 MEM/P-C:=1
127 IF E=D THEN 114
128 GOTO 37
129 LIVES=LIVES-1
130 FOR J=1 TO 10
131 CALL SOUND(100,150,0,220,0,3
00,0)
132 CALL SCREEN(12-J)
133 NEXT J
134 CALL HCHARP(1,LNMS,32)
135 LNMS=LNMS+3
136 IF LIVES=0 THEN 37
137 FOR J=160 TO 110 STEP -10
138 CALL SOUND(-100,J,0)
139 NEXT J
140 CALL CLEAR
141 CALL SCREEN(7)
142 SC=SC-500
143 PRINT "SO THAT'S IT . . .":
" . . . CHOKED ON A MINCE PIE":
144 PRINT "SPEED HAS BEATEN YOU"
"AND YOU'VE LOST 500 POINTS":
"OF THE DISPACE":
145 PRINT "YOUR FINAL SCORE IS":
SC/POINTS":
" . . . AND I HOPE YOU"
"ARE":
"ASHAMED OF YOURSELF":
146 PRINT "SOBEY UP AND TRY TO D
O":
"BETTER NEXT TIME":
147 FOR J=880 TO 110 STEP -10
148 CALL SOUND(75,J,0)
149 NEXT J
150 GOTO 309
151 BS=90
152 CP=7
153 FL=0
154 EX=0
155 LIVES=5
156 S1=INT(PND/4)+4
157 S2=INT(PND/5)+51
158 S3=INT(PND/6)+52
159 S4=INT(PND/7)+53
160 P=1250
161 PL=17
162 SC=0
163 M=0
164 TV=145
165 N=10
166 IF REP=1 THEN 169
167 GOSUB 216
168 GOTO 170
169 GOSUB 194
170 GOSUB 172
171 RETURN
172 FOR J=1 TO 3
173 CALL HCHARP(13,15+J,103+J)
174 MEM(13,15+J)=2
175 NEXT J
176 MEM(11,5)=1
177 FOR J=1 TO 4
178 GOSUB 190
179 CALL HCHARP(P-C,136)
180 MEM/P-C:=P
181 GOSUB 190
182 CALL HCHARP(P-C,128)
183 MEM/P-C:=4
184 NEXT J
185 MEM(21,5)=0
186 CALL HCHARP(21,5,112)
187 P=21
188 C=3
189 RETURN
190 P=INT(PND+22)+2
191 C=INT(PND+20)+3
192 IF MEM/P-C < 0 THEN 190
193 RETURN
194 CALL CLEAR
195 CALL COLOR(2,16,1)
196 PRINT TAB(3)"THE BOSS'S MA
S PARTY":
TAB(3)"*****"
*****":::TAB(5)"SETTING UP NO
M":
TAB(5)"*****":::
1
197 CALL SCREEN(8)
198 PRANDICE
199 DATA 153,01030F0F0E3E70F8,15
3-80C0F0F07C7C1F,144,000C0F339C
C020,145,0000150010,116,00007EF
AFF7E7EC
200 DATA 137,000020A40000200A,12
9,003E1E2E0808080E,129,0022222E0
808063E,120,003C3F3D3F3C3DFF
201 DATA 121,00242725272480FF,11
3,0000AAAAFC3C9808,113,1C1C7C7F5
555410,114,1C10FEFOFF303C

```

TI-99/4A CHRISTMAS PROGRAM

```

202 DATA 115,2000:FOR F=0 TO 104:
/00040 30703070304,105,007E7EFFFF
F7E7E-100,0000C0E0C0E0C0C
203 DATA 107,040242E7C2E3400,6,1,1
0,004040C 303054272
204 DATA 10,13,15,7,14,12,10,9,3
2,16,11,14,10,8,6,10,10,0,10,0,10,0
,10,4,10,3,10,1,10
205 RESTORE 199
206 FOR J=1 TO 19
207 READ J,NS
208 CALL CHRP(J,NS)
209 CALL HCHRP(J,1,30,32)
210 NEXT J
211 RESTORE 204
212 FOR J=1 TO 14
213 READ J,1
214 CALL COLOR(J,1,1)
215 NEXT J
216 CALL CLEAR
217 CALL SCREEN(2)
218 FOR J=3 TO 30 STEP 3
219 CALL HCHRP(J,2,152)
220 CALL HCHRP(24,J,144)
221 CALL HCHRP(2,J,1,144)
222 CALL HCHRP(24,J+1,152)
223 CALL HCHRP(2,J+2,152)
224 CALL HCHRP(24,J+2,152)
225 NEXT J
226 FOR J=3 TO 31 STEP 3
227 CALL VCHRP(J,2,144)
228 CALL VCHRP(J,32,144)
229 CALL VCHRP(J+1,2,152)
230 CALL VCHRP(J+1,32,152)
231 CALL VCHRP(J+2,2,152)
232 CALL VCHRP(J+2,32,152)
233 NEXT J
234 FOR J=1 TO 2:GOTO STEP 1
235 CALL HCHRP(1,3+J,127)
236 CALL HCHRP(1,4+J,127)
237 NEXT J
238 DIMA(3+J)
239 FOR J=1 TO 2:LINES STEP 1
240 CALL HCHRP(1,25+J,112)
241 CALL HCHRP(1,23+J,122)
242 NEXT J
243 UNDO=23
244 FOR J=3 TO 32
245 MEM(2,J)=0
246 MEM(24,J)=1
247 NEXT J
248 FOR J=2 TO 23
249 MEM(J,3)=0
250 MEM(J,32)=1
251 NEXT J

```

```

252 MEM(TEXTPRS)=STP(1)EX=PL
253 FOR J=1 TO LEV=NS
254 CALL HCHRP(24,4+J,RSC/SEGS/M
0,J,1)
255 NEXT J
256 RETURN
257 CALL HCHRP(V,M,T)
258 CALL HCHRP(F,C,F)
259 SC=SC+BS+C
260 MS="BONUS POINTS: "
261 CALL SOUND(1000,1760,0)
262 GOSUB 32
263 MS=" "
264 GOSUB 32
265 CALL SOUND(1000,1840,0)
266 MS=" "STP(1)BS=2
267 GOSUB 32
268 CALL HCHRP(13,17,107)
269 CALL SCREEN(15)
270 CALL SCREEN(11)
271 CALL SOUND(200,-2,0)
272 CALL SOUND(250,-6,0)
273 CALL SOUND(100,-5,0)
274 CALL SCREEN(7)
275 CALL HCHRP(13,17,108)
276 MEM=10
NS="HOPE FIES GOOD!"
277 GOSUB 32
278 CALL SCREEN(2)
280 FOR P=3 TO 23
281 FOR C=4 TO 51
282 MEM(P,C)=0
283 NEXT C
284 NEXT P
285 IF REP=1 THEN 287
286 RETURN
287 PL=ALAC
288 SH=7-COF/AL
289 D=0
290 SS=BS+200
291 P=P+100
292 GOSUB 216
293 IF COF=5 THEN 295
294 PL=15
295 MS=STP(1)SC
296 GOSUB 32
297 GOSUB 172
298 GOTO 37
299 FOR B=1 TO 1000
300 NEXT B
301 CALL CLEAR

```




CHRISTMAS PROGRAM

```

302 CALL SCREEN(7)
303 SC=SC+500
304 PRINT "SO YOU ADMIT IT...?"
305 PRINT "YOU'VE HAD ENOUGH TO DRINK...?"
306 PRINT "BEING SO HONEST YOU GET...?"
307 PRINT "EXTRA POINTS...?"
308 PRINT "SO YOUR FINAL SCORE IS"
309 PRINT "9*(SC/POINTS)...?"
310 PRINT "WHY NOT SOBER"
311 PRINT "UP...?"
312 PRINT "...AND TRY AGAIN...?"
313 FOR J=1760 TO 110 STEP -10
314 CALL SOUND(150,J,0)
315 NEXT J
316 PRINT "ANY KEY TO PLAY AG"
317 PRINT "AIN...?"
318 CALL KEY(0,K,S)
319 IF S=0 THEN 310
320 CALL SOUND(150,1280,0)
321 CALL CLEAR
322 IF SC<50 THEN 316
323 HSC=SC
324 PRINT TAB(2); "I'M CLEAVING T"
325 PRINT "HE TABLE...?"
326 PRINT "TOP SCORE SO F"
327 PRINT "AR...?"
328 PRINT "HSC(1)...?"
329 REP=1
330 GOSUB 151
331 E=0
332 REP=0
333 GOTO 37
  
```

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Empire is a model war strategy game, simple to operate and yet able to simulate the sophisticated power and you play the opposition power.

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The game is fast-paced in that you can win the power within 100 turns. It is almost territory. There you have a single rule book, contains the complete set of all the rules.

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was and fairly simple. The method of play is easy, though I can't say the instructions were very clear.

The light begins. Victory would be decided by more armies and which one having better power. The attack is the other power.

This is a simple war strategy simulation which should prove a good introduction, without any major variation to computer.

Good fun and quite interesting. The graphics are 100% good.

Graphics: 100%
Sound: 100%
Value for money: 100%

★★★★★

Vampire Village 48K Spectrum £6.95

Shant Software, 189 Dale Road, Glaston, Bath.

If you think being Master of Vampire was going to be a bit too much, then you are in for a real shock, because Vampire is a real shock.

The environmental design is a real shock. The game is a real shock. The game is a real shock.

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Galaxy Conflict 52K BBC £14.75

Shant Software, 189 Dale Road, Glaston, Bath.

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reviewer's rating — there are no more variation to be thought about and planned for that good strategic planning is essential.

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Ring of Power 64K £9.95

Shant Software, 189 Dale Road, Glaston, Bath.

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Jokers Wild Spectrum £9.95

Shant Software, 189 Dale Road, Glaston, Bath.

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Shut the box and keep them happy

How it works

- 1-50 arithmetic addition and subtraction required
- 100-200 arithmetic answers to go
- 25 checks whether dice are to added together
- 150 checks whether either of numbers chosen is still unopened
- 160-180 correct numbers chosen
- 200-250 get player option to add dice
- 260 user number obtained by adding dice together
- 280 player before next go
- 300-350 add numbers to go... and player score and whether play is computer. Last 240 checks for end of game
- 360-400 go for human's and 410-450 end of game and re-play routine
- 460-500 display rules
- 510-550 complete score at end of go
- 560-590 roll dice
- 600-650 check for if winners lost, scored and end of game if so
- 660-690 repeat turn. This is done until each roll of dice

Shut the Box is based on an old board game for two or more players. My version is for two players only, and will probably appeal to children as well as even to 17-year-olds.

All the rules of the game are given in the program.

Children will enjoy playing this computerised version of an old favourite, adapted for the Dragon by James Greenall

```

1  REM SHUT THE BOX
2  REM BY JAMES GREENALL
10  REM-DICE-COMES- 123456789 10
20  JN(27)=0, REM THE BOX AND WINN, REM YOU WANT ?
30  PRINT "WELCOME TO SHUT THE BOX"
40  IF NOT "Y" THEN GOTO 5000
50  GOTO 1000
60  REM YOU
70  IF NOT(11) THEN GOTO 1000
100  REM NUMBER 5 GO
110  PRINT "NUMBER 5 GO"
120  REM "Y"
130  PRINT "Y", "PRESS ANY KEY TO ROLL THE DICE"
140  REM-STARTING REM- THEN GO
150  REM YOU
160  REM YOU
170  IF 11-22(1)=0 AND 10(2)=0, 11-22, 11-22 THEN GO
180  IF 10(2)=0, 11-22 AND 10(2)=0, 11-22 THEN GO
190  REM YOU
200  REM NUMBER 5 GO
210  REM "Y"
220  PRINT "Y", "PRESS ANY KEY TO ROLL THE DICE"
230  REM-STARTING REM- THEN GO
240  REM YOU
250  REM YOU
260  REM YOU
270  IF 11-22(1)=0 AND 10(2)=0, 11-22, 11-22 THEN GO
280  IF 10(2)=0, 11-22 AND 10(2)=0, 11-22 THEN GO
290  REM YOU
300  REM NUMBER 5 GO

```

Main variables

- 101 computer's score
- 110 player's score
- 120 unopened numbers. The more on the array, corresponding to several numbers, are in score
- 130 player's option to open ranges
- 140 correct player's score
- 150-180 value of dice roll, for dice 1 and dice 2 respectively
- 190 player's score
- 200-250 total of unopened numbers in computer at the end of each go
- 260-290 total of unopened numbers in player at the end of each go
- 300-350 total of unopened numbers in player at the end of each go

The purpose of each regime of the program, as well as being explained in the How it Works section, is also contained in REM statements in the program.

The main focus of the programming algorithm for the game is the use of AS to score the value of each "box" and as the basis of printing the boxes.

```

360  PRINT "Y", "PRESS ANY KEY TO ROLL THE DICE"
370  IF NOT "Y" THEN GOTO 100
380  IF 11-22(1)=0 AND 10(2)=0, 11-22, 11-22 THEN GO
390  REM YOU
400  REM YOU
410  REM YOU
420  REM YOU
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1000 REM YOU

```

```

260  REM-STARTING REM- THEN GO
270  REM YOU
280  REM YOU
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1000 REM YOU

```

Main on statement

The only parts of the program which make some conversion problems are the while doing (any) you (11-22), which is needed to determine the score, the block graphics character codes used in showing the box, and the very first line of the program. However, the game can be played and is well suited to the box without being shown.

[illegible]

Going by the board

Board games are traditional family entertainment at Christmas, but these games break with tradition — you can play them on your micro

Reversi 48K Spectrum £4.50

Bytewise, Unit 24, Handbale Avenue, Newcastle

The play Reversi on a board similar to that of draughts or chess.

Movers are made by placing a counter into a vacant square next to an opponent's piece — the idea being to leave as many positions as possible remaining, your colour being the game wins.

On your first "move" your opponent's colour — your opponent being the computer. In this version you never lose, the computer always makes the winning move, but the board is designed to help you. The computer then

puts on the board, and if you're winning draughts it will tell you to recast the board.

There's the final way you play in case you can't find time to move. In this option, you have to make your move in five seconds or less, and you go on the computer's clock when the winning time is below 10 seconds. It's a very easy to play the game, and you're looking at a win.

As you cannot computer version of a popular board game, this one should have been a bit better.

In short, waiting to be beaten, about C. Mel.

instructions
playability
graphics
value for money

40%
40%
40%
40%



Addvance 71-99/4A £9

Shanghai Software, 60 Albury Road, Southampton, Chichester SO4 3AB

Addvance is a board game in which up to two players and the computer compete across each other.

It is allowed to draw on the computer screen.

The object of the game is to capture the number of pieces before the game is finished in the worst of the board.

If you find an unbroken square, and you have an enough pieces, you can draw it. This means your opponent's pieces are in danger of being lost. Drawings of a square can be very useful.

instructions
playability
graphics
value for money

40%
40%
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Dragon Chess Dragon 52 £9.95

Chess, Lower North Street, Chichester, Sussex

This is a well designed screen version of the game of chess. It's a solo play-on-screen game that has much more variety than most, and is quickly and easily played on a variety of computers.

For the first version, because you can't see the board, you have to move the pieces on your own. The pieces are not as good as the ones in the game, but they are good enough to play. The game is well designed, and it's a good idea to play it on a computer that has a good screen and a good keyboard.

It was the first of possibly the second in a series of chess games.

A second version was designed to be played on a computer, and it's a very good game. It's a very good game, and it's a very good game. It's a very good game, and it's a very good game.

As part from the first version, I thought this was a good idea, and it's a good idea. It's a good idea, and it's a good idea.

instructions
playability
graphics
value for money

40%
40%
40%
40%



Conflict 128 BBC £14.75

Warfare, 11 (Middlegate Road, Chichester, West Sussex)

The use of a computer to play a game of war is a very good idea. It's a very good idea, and it's a very good idea. It's a very good idea, and it's a very good idea.

The game is designed to be played on a computer, and it's a very good idea. It's a very good idea, and it's a very good idea. It's a very good idea, and it's a very good idea.

There is no need to be concerned about the game, but it's a very good idea. It's a very good idea, and it's a very good idea. It's a very good idea, and it's a very good idea.

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Here's a great family game that plays all the laws of gravity.

I have made good use of the unextended VIC-20 by writing Floating Four as a 4-player program.

Each one sets up the 40 or so graphics and unconvincingly loads the second pan. The graphics are quite effective and could easily be converted for other programs.

Make an extension

For any without joystick, simply make three changes:

```
21 P=PEEK(17)
22 IF P=32 THEN GOTO
23 IF P=64 THEN PORT=1
  TOURNAMENT GOTO 12
```

Now both players use the key board.

To extend the program to another micro-odd require bits of time and patience. The program covers almost loads of ground. It could be extended to control the screen and make sounds.

Having it mind that the screen of the VIC is only 32 by 43 characters, the POKEs are as follows:

POKE 17,76 to the graphics
POKE 144,0 to the screen
POKE 128 to the screen
POKE 128 to the screen

POKE 144,0 to the screen
POKE 128 to the screen
POKE 128 to the screen
POKE 128 to the screen

The control characters are explained in the beginning of the listing.

The object of Floating Four is to connect a line of four counters in a straight line — vertically, horizontally or diagonally.

Floating Four is a two-player game in which one player uses the joystick and the second uses the

Will you float to Victory?



keyboard. But only three changes are needed to make it a keyboard only game — not the first on Commodore action.

To move the counters into blocks around the board, either by any key or move the joystick.

Once in the desired position, the counter may be dropped and will continue to fall until it meets another counter or the edge of the board.

Scoring and checking is done by the VIC, so it's time to play. All wins are displayed and the winner always starts the next game. If there is no winner then a random player begins.

If no one can move and a stalemate occurs, keep on trying to

always fall away from the side from which it was dropped and will continue to fall until it meets another counter or the edge of the board.

Scoring and checking is done by the VIC, so it's time to play.

All wins are displayed and the winner always starts the next game. If there is no winner then a random player begins.

If no one can move and a stalemate occurs, keep on trying to

Variables

```

%10000 score
%10001 player, position entered
%10002 board indicator
%10003 player up
%10004 move length
%10005 counter position
%10006 random key, keyboard count
%10007 1117 joystick count
%10008 full direction value
%10009 end clear of board
%10010 location of counter
%10011 counter for move

```

drop a counter. After the winning has sounded eight times the board will reset, but the scores remain the same.

To reset scores, press function key one when "RESET ANY KEY TO PLAY" appears.

Note: Ensure that the type deck is switched off when playing, or the joystick's counter will continue to circle the board.

How it works (part two)

```

2-3 random scores, statistics
2-4 random key to play
2-5 display who gets first
2-6 1117 joystick count, counter
2-7 1117 joystick count, counter
2-8 1117 joystick count, counter
2-9 1117 joystick count, counter
2-10 1117 joystick count, counter
2-11 1117 joystick count, counter
2-12 1117 joystick count, counter
2-13 1117 joystick count, counter
2-14 1117 joystick count, counter
2-15 1117 joystick count, counter
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2-95 1117 joystick count, counter
2-96 1117 joystick count, counter
2-97 1117 joystick count, counter
2-98 1117 joystick count, counter
2-99 1117 joystick count, counter
2-100 1117 joystick count, counter

```

Floating Four — listing one. Type in this listing first, SAVE it in the safety board then type 144,0 before trying in the second listing.

```

10000 score
10001 player, position entered
10002 board indicator
10003 player up
10004 move length
10005 counter position
10006 random key, keyboard count
10007 1117 joystick count
10008 full direction value
10009 end clear of board
10010 location of counter
10011 counter for move

```

```

10000 score
10001 player, position entered
10002 board indicator
10003 player up
10004 move length
10005 counter position
10006 random key, keyboard count
10007 1117 joystick count
10008 full direction value
10009 end clear of board
10010 location of counter
10011 counter for move

```

```

10000 score
10001 player, position entered
10002 board indicator
10003 player up
10004 move length
10005 counter position
10006 random key, keyboard count
10007 1117 joystick count
10008 full direction value
10009 end clear of board
10010 location of counter
10011 counter for move

```

Floating Four — listing two. Type in after listing one, SAVE and then type RUN.

```

10000 score
10001 player, position entered
10002 board indicator
10003 player up
10004 move length
10005 counter position
10006 random key, keyboard count
10007 1117 joystick count
10008 full direction value
10009 end clear of board
10010 location of counter
10011 counter for move

```




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FINANCE MANAGER is a powerful, flexible and fast MENU DRIVEN general purpose program carefully designed to handle up to 255 separate accounts for domestic and business accounting applications. The magic of **MACHINE CODE** has enabled us to produce the very latest "on the page" presentation which lets you enter and edit data naturally, as if with a pencil and paper.

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As for the Commodore 64, but now available for the 48K Spectrum, Texas TI99/4A and Dragon **£5.50**

VIC-20

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Try it, it's the ultimate Fruit Machine for the VIC with wagers, hold and scrap 100% machine code. "No-wait" Jackpot is a beautifully written simulation giving superb graphics, animation and use of colour. In fact, the program makes Commodore's Fruit Machine cartridge look unbearably cheap and nasty. "Home Computing Weekly No. 30 19/3/83" **£5.50**

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Accuracy and speed are required for the Shooting Gallery, superb use of colour and graphics in this new and challenging game from the author of Jackpot. 100% machine code, joystick or keyboard control. **£5.50**

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Choose your own game from the following options — difficulty 1-3 speed 1-3, size of maze 1-3, mobile or invisible maze, still or moving power pills, define your own key controls, any combination, if this is your type of game, then this is the one for you, for the TK expand VIC..... **£5.50**

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This is a Minefield with a difference as you step on the mines whilst collecting purple boxes which give your both time and points, they disappear from beneath your feet (DO NOT DESPAIR) "BUGSY" will randomly replace the mines but avoid tramping into them or its sudden death! An original competitive and challenging game..... **£5.50**

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As last, so here, specially written for the 64, by the author of "JACKPOT" the ultimate Fruit Machine program for the VIC **£5.50**
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A game for up to four players, can you lead the party of your choice and win the general election, you test the 60 constituencies (great) buying votes, when you can, (just like the real thing), this must be one of the first board type games specially written for the computer. Why play on your own, have fun with your family and friends playing WESTMINSTER **£5.50**

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WHEELER DEALER

A game for two to twenty players, become a tycoon of the motor trade, you must obtain gearboxes, tyres and engines to produce cars for sale. Form syndicates, buy and exchange parts, buy dealerships, but be careful, you may become bankrupt and have to liquidate, find out what you are made of, have you got what it takes to become a WHEELER DEALER **£5.50**

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It's Christmas Eve... and Santa's reindeer have escaped

Just imagine the situation. Santa Claus is just about to set off on Christmas. But to deliver many thousands of presents to expectant girls and boys throughout the world, when — horror of horrors — he finds tomorrow has left a pile empty, and all his reindeer have escaped.

How it works

50, 120 or 240 UDC channels,
200-600 Subchannels 210-240
PILOT tone, 500-600 clock
for systems, 600-650 binary
Christmas tone

1000-1000 must file
1100-1100 navigation
1200-1200 reindeer must visit
you

1400-1200 can open the screen/poin-
ters, reindeer and Santa
Claus

1600 on clock so you
1600-1600 reindeer and reindeer
at position

1600-1200 where Santa Claus
1200-1600 now a reindeer
1600 has reindeer reindeer arrived
in the pen?

1600-1600 if a reindeer reindeer
and play a tone
1600-1600 end of game message

Of course, he can't swim without his reindeer to pull his sleigh, and the longer he takes to round them up, the more children he'll disappoint by failing to deliver their presents.

This is the theme of my game for the 16 and 48K Spectrum. You have to guide Santa to help him get his reindeer back into their pens.

The screen is set up like a snow-covered street in Greenland (we all know that's where Santa is

There's thousands of Christmas stockings to fill, but first Santa must round up his reindeer. You can help by typing David Nowotnik's program into your 16K or 48K Spectrum



hated). The reindeer pens will appear on the left-hand side of the screen, and areas will be "unseen" on the remaining part of the screen.

Main variables

A new portion of the UDC area of RAM
subsystems have had various combinations of Santa
pen and reindeer coordinates
of pens or reindeer
number of presents in a pen
of reindeer
total number of reindeer re-
turned to the pen
and entry which holds the
relative coordinates for
Santa's movements
of Santa which holds the relative
coordinates for moving rein-
deer

The escaped reindeer are hidden among the trees, and a distraught Santa Claus will start the game in the empty reindeer pen.

The game instructions are embedded in the program. Your success is measured by the number of presents Santa has time to deliver. This is shown at the bottom of the screen.

Two tips for playing the game: Santa's pen the reindeer trapped in trees or at the edge of the screen, otherwise it will be impossible to direct them to the pen. Also, you have 10 reindeer on the screen, and Santa needs only six to pull his sleigh — so go for the most unmovable reindeer.

Listen out for the tone played at the beginning and end of the game.

```

1000 REM *** David Nowotnik's "Reindeer" ***
1010 REM *** Version 1.0 ***
1020 REM *** Written by David Nowotnik ***
1030 REM *** Based on the "Reindeer" game by David Nowotnik ***
1040 REM *** This game is for the 16K and 48K Spectrum ***
1050 REM *** It is a Christmas Eve game ***
1060 REM *** The screen is set up like a snow-covered street in Greenland ***
1070 REM *** The reindeer pens will appear on the left-hand side of the screen ***
1080 REM *** Areas will be "unseen" on the remaining part of the screen ***
1090 REM *** The game instructions are embedded in the program ***
1100 REM *** Your success is measured by the number of presents Santa has time to deliver ***
1110 REM *** This is shown at the bottom of the screen ***
1120 REM *** Two tips for playing the game: Santa's pen the reindeer trapped in trees ***
1130 REM *** or at the edge of the screen, otherwise it will be impossible to direct them to the pen ***
1140 REM *** Also, you have 10 reindeer on the screen, and Santa needs only six to pull his sleigh ***
1150 REM *** so go for the most unmovable reindeer ***
1160 REM *** Listen out for the tone played at the beginning and end of the game ***
1170 REM *** The game is for the 16K and 48K Spectrum ***
1180 REM *** It is a Christmas Eve game ***
1190 REM *** The screen is set up like a snow-covered street in Greenland ***
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2210 REM *** The game is for the 16K and 48K Spectrum ***
2220 REM *** It is a Christmas Eve game ***
2230 REM *** The screen is set up like a snow-covered street in Greenland ***
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2950 REM *** or at the edge of the screen, otherwise it will be impossible to direct them to the pen ***
2960 REM *** Also, you have 10 reindeer on the screen, and Santa needs only six to pull his sleigh ***
2970 REM *** so go for the most unmovable reindeer ***
2980 REM *** Listen out for the tone played at the beginning and end of the game ***
2990 REM *** The game is for the 16K and 48K Spectrum ***
3000 REM *** It is a Christmas Eve game ***

```


It seemed like a bad dream. It became a Spritemare

My computer blinked at me in a worrying way. I looked through the last part of my program for bugs, generally comparing the lines on the TV screen with the notes scribbled in the back of my side. My eyes ached and my head felt as though someone had filled it with slugs, and the results of programming just were in the morning. The sound of my father's weary drift, muffled, through the ceiling.

I glanced at my watch. The display read 3:30 and I felt drowsy, fighting behind my forehead, trying to take the time from the world. Just another 15 minutes and I'll go up to bed. I thought. I wanted to go to bed but part of my program.

Outside the house trees and fields stretched away from the house into a pall of black who knows into the twilight where there's enough light like some Christmas Eve was in the process of becoming Christmas Day and warm forest stretched against the dark room light from the window behind which Richard worked on his program.

The house was old but the foundations were solid. It had been built straight for back to time who knows the man. Below those foundations there were aging bedrock, the roots of which go deep into the heart of the earth. And that bedrock had been there to support with the blood of sacrifice.

To sit on any floor who it seemed as on the house the computer was a monster. Richard was not. People like understood and the roots and centuries of people they could bend to their own and purpose through their people. And they were reaching out now could shadows lived, moving in the light reached through it. The caught at Richard's every word.

My head felt suddenly cold as I pressed the keys. I really must get off up to bed soon, I thought, and yawned. As I did so, a shiver ran down my spine like a frozen storm. I continued typing though I felt half asleep and as I typed, the screen blurred and letters ran together. As they ran together I felt my hands typing faster and faster, the screen a mass of dancing figures, twinkling and twinkling.

Sometimes in the back of my mind I thought as an odd, different way. "I am asleep and none of this is happening. How could I want to be back typing in the program while I sleep?" After this I felt myself falling backward through the floor and down a long, long tunnel as whatever my eyes saw.

I awoke unconsciously with my hand falling over the back of the chair. As I reached through my hands as I sat up my fingers fell on the keyboard. I looked at my watch. It now read 3:35. I was about to SAVE the program and then go straight to

Lock the doors, close the curtains, turn on all the lights, make sure you're not alone in the house. Now you can read Mark Eyles' Christmas ghost story. But don't say you weren't warned...

bed when the computers, on the screen caught my attention.

MARK DARK NIGHT, DARK WHITE, SILENCE, DARK NIGHT, SILENCE.

The cursor flashed after the RUN, waiting for me to start the program. I had the impression that it was waiting at night in a private way, during the

I must have been more sleepy than I thought, a cold sweat broke out on the palms of my hands as I imagined characters of light crawling into the room through the shadows. I shook myself. "This is silly", I whispered to myself. "I can't possibly be scared of a character program program. This is just after all, not the first time."

I looked at the screen again and still there in the back of my neck, myself. I decided to SAVE the program, to turn off the computer and go up to get some sleep. My small brother would be awake in another couple of hours, ready to open his program. The keyboard rarely stops just 6:30 on Christmas Day.

Then my window took hold and suddenly of course I could see. My hand went to the keyboard to RUN the program. My eyes widened as I pressed the key.

The screen flickered and went white as the house and started to shake like one half seen - half computer image - nightmare from the screen of light. They months I had typed in the house began to melt. A window opened up, right over the door growing. Perhaps that Christmas would be white. Through curtains beyond would be white.

I was dragged up to some consciousness from a deep and troubled sleep by the sound of my brother's door opening. A dull revulsion came from my left arm. "I've been sleeping on it", I thought as I drifted back to sleep.

The next instant a screen showed into my dream. I awoke, but the screen didn't stop. It became more than a screen as the back of my eyelids, which finally opened, I came back to myself, feeling weak and groggy. My arms ached with sleep, I moved it. A sharp pain hit to the bone. Air rushed out of my mouth with a small accompanying cry.

I rolled out of bed clanking my teeth against the pain and looked at my arm. Three deep, ragged scratches stretched between my elbow and wrist. The world tilted to an impossible angle and there spots of blood, now dried to a crusty brown, scattered about me.

At last, really falling, one more of springs came again into the world, then came my way to the stairs. My father's worried face looked like it was just appearing at my parents door. Again my feet, I ran downstairs, almost falling as I caught my foot, towards the sitting room. I ran the house.

My little brother stood in the doorway, quivering with fear. I came up behind him and looked into the room. At the window stood the table's back into the small portable TV and my computer. Embedded in the computer's keyboard was a large always black. From the top in the keyboard a dark, red-brown stain spread over the computer, across the table, down the table legs and over the rug below. The dark stain was fatal. A hole had been made in the window through which some more had come to settle on the window sill. The snow was just on the floor. I then remembered pressing that key three hours earlier.

As I had reached this key a deep red-brown stain over me, one that pricked my small shoulder. The screen went black and there seemed to disappear altogether, leaving a gaping pit. In the bottom most shapes began to form and move as toward me. I realized I should not have reached the key. Too late. The light on the screen dimmed and blacked out. I closed my eyes and in absolute blackness.

Before my eyes I climbed up out of sight, a thousand miles down. The run went on in a shadowy light where they seemed as though trying to escape. A mouth cracked open and looked displaying the shape of a human tooth. A headless as a component a soul. Something like the old angel and came a coffin, a whisper.

*"In this darkness I light
in the shadow of light,
I am the Dark Spirit."*

The fire came down and I could not move. I must have been all of it could have controlled by body. Then a cold damp glow closed on my arm. The fire came down and nothing but the light itself and a spark. The rest was blackness. I felt I might be trapped inside a small coffin. I felt I was dead. I couldn't remember dying.

GHOST STORY

"Keeeee, keeeeee. Keee. Gaaa kkkk. I mean food!" He'd look too close from my arm and go to sleep as he slipped into my flesh with these rigid claws. For some reason it was a tough scenario that was being run. The fact that I was "dead" was a service it would be happy to find as my soul was just beginning to pass. Several so I was, eye peeled my, head was working as I was just. I was being told outside of normal, far to moved from my world, far removed from the things I understood. A being I met from beyond space. Was this person a spirit of all human as I was of things?

Across the table a carving knife lay on a plate where a food been used yesterday to cut cake. I fell across the room as the dark, no eyes beginning to pick out objects in a blue-green fluorescence which dropped from the customer's garments. I clatched the knife in my good right hand and moved back to ward the monster.

"I'll give you your sacrifice," I whispered, thinking the knife into my companion. To my astonishment blood spurted from the grate. Then the world went gray. The window cracked open immediately and a hundred dead spirits flew into the room, lighting it with their cooling glow. I was flung from my feet and crashed violently across the room as slow motion. The beings led, and I fled.

As I crawled from the room, obscure sucking sounds followed me up the wall. By now I was half covered with dirt and out of interest of what I was going. I collapsed on my feet and felt some unconsciousness.



In that momentary moment a handful of words fell.

"Never have we tasted meat like this before, so soft, so new, so different. We will return. We will return when hunger drives us to repeat. We will return to see this taste again."

My parents had arrived downstairs and

were staring speechlessly at the room. How would they believe my story? How would I be able to warn people of the terror stalking them, lying at night through their heavy companions?

Mark Coker is a director of Quarkware, the Southampton-based software company.

GAMES MACHINE

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Top Ten programs for the Spectrum

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|----|-------------------|----------------|
| 1 | Atix Asia | Ultimate (2) |
| 2 | The Pyramid | Fantasy (3) |
| 3 | Chameleon Play | Psion (5) |
| 4 | Flight Simulation | Psion (6) |
| 5 | Maric Miner | Bug Byte (1) |
| 6 | Anti Attack | Quicksave (4) |
| 7 | Lunar Jetman | Ultimate (6) |
| 8 | Pool | ODS (1-1) |
| 9 | Kong | Odian (6) |
| 10 | Split | Insanitive (8) |

Compiled by P. M. Smith. Figures in brackets are last week's positions

Top Ten programs for the ZX81

| | | |
|----|------------------|-----------------|
| 1 | Defender | Quicksave (6) |
| 2 | Sarcophagus | Quicksave (1) |
| 3 | Atlantida | Smiler (2) |
| 4 | Chess | Smiler (6) |
| 5 | Space Raiders | Smiler (3) |
| 6 | Paradise Games | Quicksave (1-1) |
| 7 | Invaders | Smiler (1-1) |
| 8 | Open Cruise | Smiler (1-1) |
| 9 | ZX81 Forth | Smiler (1-1) |
| 10 | Master Geography | |

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Top Ten programs for the Dragon

| | | |
|----|----------------------|------------------|
| 1 | Mixed Out | Quicksave (3) |
| 2 | Pettigrews Diary | Shards (10) |
| 3 | Night Flight | Salomander (1-1) |
| 4 | Ring of Darkness | Wintemhoff (1) |
| 5 | Dragonfly II | Wintemhoff (1-1) |
| 6 | Grindstone | Salomander (1-1) |
| 7 | Champions | Peacock (6) |
| 8 | Lionheart | Peacock (1-1) |
| 9 | Frogger | Microdeal (6) |
| 10 | Microdeal Grand Prix | Microdeal (1-1) |

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Top Ten programs for the VIC-20

| | | |
|----|--------------------|---------------------|
| 1 | Arxilla | Imagine (6) |
| 2 | Merid & the Francs | Malbourne House (1) |
| 3 | Wacky Walkers | Imagine (3) |
| 4 | Lunar Zone | Wintemhoff (1-1) |
| 5 | Matrix | Ultimate (10) |
| 6 | Grindstone | Quicksave (1-1) |
| 7 | Daybreak | Quicksave (6) |
| 8 | Sirpin II | Commodore (1-1) |
| 9 | Monty Manager | Commodore (1-1) |
| 10 | Photo | Bug Byte (3) |

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BEST SELLERS

Top 30

| | | | |
|----|------------------------|---------------|----------------|
| 1 | Atix Asia | Ultimate | Spectrum (1-1) |
| 2 | Lunar Jetman | Ultimate | Spectrum (2) |
| 3 | Kong | Odian | Spectrum (5) |
| 4 | Jetpac | Ultimate | Spectrum (3) |
| 5 | Maric Miner | Bug Byte | Spectrum (3) |
| 6 | The Hobbit | M House | Spectrum (4) |
| 7 | Vaults | Legend | Spectrum (1) |
| 8 | Chuckie Egg | AdP | Spectrum (17) |
| 9 | 747 Flight Simulator | Doctorsoft | ODS |
| 10 | Pool | ODS | Spectrum (10) |
| 11 | Malbourne | | |
| 12 | Draw | M House | Spectrum (1-1) |
| 13 | Falcon Patrol | Virgin | CIM 84 (26) |
| 14 | Odian | Softek | Spectrum (1-1) |
| 15 | Night Flight | Microdeal | Dragon (1-1) |
| 16 | Killer Gorilla | Program Power | ODS (10) |
| 17 | Thom Ara | Ultimate | Spectrum (6) |
| 18 | Split | Insanitive | Spectrum (1-1) |
| 19 | Cosmos | Ultimate | Spectrum (6) |
| 20 | Horror and the Spiders | Psion | Spectrum (13) |
| 21 | The King | Microdeal | Dragon (18) |
| 22 | Penetration | M House | Spectrum (22) |
| 23 | Hall of the Things | Crystal | Spectrum (14) |
| 24 | Cathart in the Jungle | Microdeal | Dragon (15) |
| 25 | Snooker | Amic | Spectrum (1-1) |
| 26 | Franklin Tomb | Salomander | Dragon (1-1) |
| 27 | 3D Demosion | | |
| 28 | Destruction | Amic | Spectrum (1-1) |
| 29 | Crash Painter | Microdeal | Dragon (1-1) |
| 30 | Peas | Ultimate | Spectrum (20) |
| 31 | 3D Combat Zone | Amic | Spectrum (23) |

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Top Ten programs for the Commodore 64

| | | |
|----|-----------------|------------------|
| 1 | Crash Kong | Interceptor (6) |
| 2 | Frogger | Interceptor (1) |
| 3 | Lunar Zone | Interceptor (10) |
| 4 | Sentiman | Autogenic (6) |
| 5 | Moschman | Quicksave (2) |
| 6 | Purple Turtle | Quicksave (6) |
| 7 | Quantic Warrior | Quicksave (1-1) |
| 8 | Acadplane | Autogenic (1-1) |
| 9 | Samurai | Microdeal (1-1) |
| 10 | Caval the Cat | |

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